

REMARKS

The present Amendment amends claims 1-16 and new claims 17-33.

Therefore, the present application has pending claims 1-33.

Claims 1-9 and 11 stand rejected under 35 USC §102(b) as being anticipated by Selvin (U.S. Patent No. 4,116,517); claim 10 stands rejected under 35 USC §103(a) as being unpatentable over Selvin; claims 12 and 13 stand rejected under 35 USC §103(a) as being unpatentable over Moore (U.S. Patent No. 4,050,756) and claims 14-16 stand rejected under 35 USC §103(a) as being unpatentable over Selvin view of Applicants' alleged admitted prior art. These rejections are traversed for the following reasons. Applicants submit that the features of the present invention as recited in claims 1-16 are not taught or suggested by Selvin, Moore or Applicants' alleged admitted prior art whether taken individually or in combination with each other as suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw these rejections.

Amendments were made to the claims in order to clarify the description of the present invention. Particularly, amendments were made to the claims to clarify as illustrated in Figs. 3b, 4 and 5, that the present invention provides an electrical connector for use in a host device for electrically connecting an electrical mating connector of a card. The electrical connector as now recited in the claims includes a rigid substrate and a contact which is supported by the substrate.

According to the present invention the contact makes electrical connection with a corresponding contact on the electrical mating connector of the card and is a collapsible, resiliently deformable hollow projection. Further, according to the

present invention, an area between the contact and the rigid substrate is empty so as to permit the contact to move between a fully collapsed deformed state and a fully extended undeformed state.

The above described features of the present invention now more clearly recited in the claims are not taught or suggested by any of the references of record particularly Selvin, Moore and Applicants' alleged admitted prior art, whether taken individually or in combination with each other as suggested by the Examiner.

Selvin teaches a flexible printed circuit which can be electrically connected to a printed circuit board without the use of intermediate conducting contact elements. Selvin teaches, for example, in Fig. 2 thereof an assembly 10 which includes the flexible printed circuit board 12 having a flexible insulation sheet 14 which includes conductive strips 16 on the upper surface thereof. The conductive strips 16 are terminated into circular conductive pads 18. The conductive pads 18 and the area of the insulation sheet 14 underlying the pads are each deformed to provide a hollow upwardly extended contact projection 22 in the center of the conductive pad 18. Each upwardly extended contact projection 22 defines there below a cavity 24. Each cavity 24, formed by the upwardly extending contact projections 22 and insulation sheet 14, is filled by an upwardly protruding integral point 28 which "may either loosely fit within the cavities or may be adhere to the walls thereof by suitable bonding techniques".

As taught by Selvin, the upwardly protruding integral points 28 fills the cavities 24 formed by the upwardly extending contact projections 22 so as to "press on the back of the contact projections, thereby producing a high force localized contact

between the conductive traces on the flexible printed circuit assembly 10 and the traces on the a printed circuit element to which it is attached.

Thus, by use of the above described structure taught by Selvin, the upwardly protruding integral points 28 cause the upwardly extending contacts 22 to remain in an uncollapsed state even when held in a connection assembly having clamping means as illustrated, for example, in Fig. 3 of Selvin. Therefore, according to Selvin there is no attention or concern to minimize the space between the assembly 10 and the printed circuit board 34, even if the upwardly extending contacts 22 are used, to form a more compact assembly 32 as per Fig. 3 of Selvin to which the features of the present invention are concerned.

The present invention as recited in the claims is concerned with not only forming a good contact between the electrical connector and a device such as a smart card, but also to form an assembly which does not increase the size of the host device. Thus, according to the present invention it is very important that the contacts be fully collapsible thereby minimizing the space between the electrical connector and a card when the electrical connector and the card are in a mating position. It is quite clear that Selvin does not address nor it is intended to solve such issues, the miniaturization of host devices, as in the present invention.

Therefore, Selvin fails to teach or suggest an electrical connector having a rigid substrate and a contact supported by the substrate wherein the contact is a collapsible, resiliently deformable hollow projection as recited in the claims.

Further, Selvin fails to teach or suggest that an area between the contact and the rigid substrate is empty to permit the contact to move between a fully collapsed deformed state and a fully extended undeformed state as recited in the claims.

The above noted deficiencies of Selvin are not supplied by Moore or Applicants' alleged admitted prior art whether taken individually or in combination with each other.

Moore is merely relied upon for an alleged teaching of a substrate which contacts on opposing sides of the substrate. Thus, Moore does not supply the deficiencies noted above of Selvin with respect to the features of the present invention now more clearly recited in the claims, namely that the contact is a collapsible resiliently deformable hollow projection and an area between the contact and the rigid substrate is empty to permit the contact to move between a fully deformed state and a fully extended undeformed state as now recited in the claims.

Therefore, combining the teachings of Selvin and Moore still fails to teach or suggest the features of the present invention as now recited in the claims.

Applicants' alleged admitted prior art is relied upon for an alleged teaching of the use connectors in a SIM/smart card for a telephone. This alleged teaching of Applicants' alleged admitted prior art does not supply the deficiencies noted above of Selvin with respect to the present invention as now recited in the claims, namely that the electrical contact is a collapsible resiliently deformable hollow projection and that an area between the contact and the rigid substrate is empty to permit the contact to move between a fully collapsed deformed state and a fully extended undeformed state as recited in the claims.

Therefore, combining the teachings of Selvin with one or more of Moore and Applicants' alleged admitted prior art still fails to teach or suggest the features of the present invention as now recited in the claims.

In view of the above, Applicants submit that the features of the present invention as now recited in claims 1-16 are not taught or suggested by Selvin whether taken individually or in combination with one or more of Moore or Applicants' alleged admitted prior art. Therefore, reconsideration and withdrawal of the above noted rejections of claims 1-16 under 35 USC §102(b) and 35 USC §103(a) based on Selvin, Moore and/or Applicants' alleged admitted prior art is respectfully requested.

As indicated above, the present Amendment adds new claims 17-33. New claims 17-33 recite many of the same features shown above not to be taught or suggested by the references of record particularly Selvin, Moore and Applicants' alleged admitted prior art. New claims 17-33 also recite an additional feature that when the card is retained in the electrical connector apparatus a volume of the card and the electrical connector apparatus is less than a total of the volumes of the cards and the electrical connector apparatus taking separately. This feature of the present invention as per the above is directed to addressing the size considerations of the host device which is not addressed nor is it the concern of the references of record particularly Selvin, Moore and Applicants' alleged admitted prior art. Therefore, the same arguments presented above and the above noted argument of the lack of teaching of the above described additional feature, apply to claims 17-33.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 1-16.

In view of the foregoing amendments and remarks, Applicants submit that claims 1-33 are in condition for allowance. Accordingly, early allowance of claims 1-33 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (367.40946X00).

Respectfully submitted,

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